Research Data Management: What Is It & What’s Happening In Ontario

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Agenda

- What is RDM?
- Where to find resources?
- OCUL RDM Needs Assessment Study
- Case studies
What is RDM?
Where to find resources?
Why the Library?

- Research partner
  - Information
  - Consultation
- RDM expert
- Partner with the Research Office (in some unis)
- The scholarly lifecycle
- Discipline-agnostic
- Challenge!
  - How to help researchers advance their research
What are Research data?

“Research data can be defined as “a collection of facts, measurements, or observations used to make inferences about the world we live in” (Eisner and Vagird, n.d.). In practice, research data can be a great many things, from DNA samples to interview transcripts to photographs.”

Source: https://bit.ly/2AQb4JG
What are Research data?

“What Research data are the original sources or material that you have created or collated to conduct your research project. They can be digital or non-digital. The response to your research question is based on the analysis of these research data.”

Source: [https://blogs.ucl.ac.uk/rdm/2015/09/what-is-research-data/](https://blogs.ucl.ac.uk/rdm/2015/09/what-is-research-data/)
The Research lifecycle

Source: http://www.data-archive.ac.uk/create-manage/life-cycle
What is RDM?

- The process of controlling the information generated during a research project
- An integral part of the research process
- Can be challenging
- Depends on
  - Types of data involved
  - How data is collected and stored
  - How it is used
- Occurs throughout the research lifecycle

Reference: [https://up-za.libguides.com/c.php?g=356288&p=2428309](https://up-za.libguides.com/c.php?g=356288&p=2428309)
What is RDM? (cont’d)

- Includes
  - Sound practices
  - Data curation
  - Data stewardship
Why is RDM important?

- Becoming a requirement for funders
- Researchers are tending to collaborate more than ever before with international partners
- Will benefit the researcher
- Deterrent to research fraud
- Bonus ...
How do I find resources?

THE PORTAGE NETWORK is dedicated to the shared stewardship of research data in Canada through:

- Developing a national research data culture
- Fostering a community of practice for research data
- Building national research data services and infrastructure

Launched in 2015 by the Canadian Association of Research Libraries, Portage works within the library community to coordinate expertise, services, and technology in research data management.
How do I find resources?
# RDM equivalents in French and English

<table>
<thead>
<tr>
<th>Term related to RDM (english)</th>
<th>Expression liée à la GDR (français)</th>
</tr>
</thead>
<tbody>
<tr>
<td>access [verb, to access data]</td>
<td>consulter</td>
</tr>
<tr>
<td>aggregate</td>
<td>regrouper, rassembler</td>
</tr>
<tr>
<td>aggregation</td>
<td>service regroupé</td>
</tr>
<tr>
<td>API</td>
<td>API</td>
</tr>
<tr>
<td>application program interface (API)</td>
<td>interface de programmation d’application [utiliser surtout API]</td>
</tr>
<tr>
<td>code book</td>
<td>dictionnaire de données</td>
</tr>
</tbody>
</table>

Source: [https://portagenetwork.ca/training-resources/rdm-equivalents-french-english/](https://portagenetwork.ca/training-resources/rdm-equivalents-french-english/)
RESEARCH DATA MANAGEMENT

PRIMER

Research Data Management (RDM)

- RDM refers to the processes applied throughout the lifecycle of a research project to guide the collection, documentation, storage, sharing, and preservation of research data.
- RDM practices are integral to conducting responsible research and can help researchers save resources by ensuring their data is complete, understandable, and secure.
- RDM practices also follow institutional and funding agency guidelines that protect their investments.
- The broader research community can derive maximum value from research data that can be accessed, shared, reused and repurposed.

The Research Data Lifecycle

Plan | Create | Process | Analyze | Disseminate | Preserve | Reuse

Defining Research Data

- Primary sources supporting research, scholarship or artistic endeavours
- Can be used as evidence to validate findings and results
- May take the form of experimental data, observational data, operational data, third party data, public sector data, monitoring data, processed data, or repurposed data
- All other digital and non-digital content have the potential to become research data

GESTION DES DONNÉES DE RECHERCHE

INFORMATION DE BASE

Ressources canadiennes et internationales en GDR

Portage

Données de recherche Canada

Digital Curation Centre

DataOne

DataONE

Données de recherche Canada

Digital Curation Centre

Australian National Data Service

Politiques canadiennes sur la GDR

Contact institutionnel:
Training Modules

● Research Data Management (RDM) 101
  ○ 4 parts
  ○ https://portagenetwork.ca/training-resources/portage-training-resources/rdm-101/

● CIHR Research Data Management Learning Modules
  ○ RDM 101 Lite!
  ○ http://www.cihr-irsc.gc.ca/lms/e/app-rdm-mod1/
  ○ http://www.cihr-irsc.gc.ca/lms/f/app-rdm-mod1/
OCUL RDM needs assessment study
What is OCUL?

- Established in 1967
- Consortium of 21 university libraries
- Innovative information services and collections
- “Collaborate, innovate, deliver”
What is Scholars Portal?

- OCUL initiative established in 2002
- Shared technological infrastructure that provides access to and preserves information resources collected and shared by OCUL
- CRL Trusted Digital Repository (2013-) (ejournals)
Scholars Portal supporting RDM

<odesi> is a web-based data exploration and analysis tool for social survey and polling data

GeoPortal is an award-winning geospatial data discovery tool, providing access to a curated collection of maps and geospatial datasets

Dataverse is a research data repository to store, share, publish and discover research data

Ontario Library Research Cloud is a high capacity, geographically distributed storage and compute network

Permafrost is a hosted digital preservation service providing a suite of tools, training and resources for processing digital objects for long-term preservation
Needs assessment for RDM infrastructure

- Investigate current *strengths* and *gaps* of RDM infrastructure at local, regional, and national levels
- Inform service and platform developments that target needs of OCUL institutions
Needs assessment - Methodology

- Interview questions shared with OCUL institutions
- Participating groups bring together 2-4 people who oversee and/or who are involved with RDM
- Teams review the questions and choose to prepare responses in advance and/or answer at the time of interview
- Semi-structured interview approach
  - Interviewer may ask follow-up questions
  - Team can elaborate on open-ended questions
Needs assessment - Interview questions

General, institutional context
Active data
Data deposit
Digital preservation
RDM and OCUL within Canadian context
Needs assessment - Current status

- 16 interviews completed (October - January)
- 2 more interviews scheduled
- Groups consist of 2-4 people from library
  - e.g., University Librarian, Head/Director of Division/Unit, RDM Librarian, Liaison Librarian, Data Librarian
- Many groups also include people from outside library
  - e.g., CIO, IT, Research Office, VP-Research, Dean/Associate Deans
Needs assessment - Analysis

- Transcription of recordings
- Answers summarized and sent to groups for verification
- Responses coded and anonymized
- Qualitative analysis using *grounded theory*, an ethnographic approach
  - Inductive method to discover emerging themes
  - Iterative process to identify, combine, alter, or remove themes that reflect patterns and common ideas
Needs assessment - Preliminary Trends

- General challenges related to RDM infrastructure include:
  - Storage for active data and for preservation
  - Lack of sustainable resources
  - Dealing with sensitive data and data security
  - Lack of awareness related to RDM and library’s role

- All institutions are currently responding in a proactive way to the changing landscape of RDM:
  - In process of developing policies/strategies related to RDM
  - Trying to build services and infrastructure with limited resources
  - Attempting to address needs at local, consortial, and national levels
Needs assessment - Next steps

Analysis!!

Report to OCUL directors

White paper

OCUL RDM symposium
Case studies
Case study 1 - Carleton U

- Training Materials
  - Portage training materials

- Presentations
  - from others - colleagues, unis, webinars, ...
  - When
  - Who
  - Why
  - Where
  - What
Case study 1 - Carleton U - Face to Face

- Consultations
  - When
  - Who
  - Why
  - Where
  - What

- Connections aka Networking
  - When
  - Who
  - Why
  - Where
  - What
Research Data Management Plan Template

PROJECT INFORMATION

Name of Researcher:  
Click here to enter text.

Project Title:  
Click here to enter text.

Funding Sources (if any):  
Click here to enter text.

DATA MANAGEMENT PLAN

- Data Description: Provide a brief description of the information to be gathered — the nature, scope, and scale of the data that will be generated or collected.

- Metadata Description: What types of metadata will you produce to support the data? Will a metadata standard be used?

- Intellectual/Property Rights: Who will hold intellectual property rights for the data and other information created by the project?

- Ethics and Privacy: If applicable, how will you handle informed consent with respect to communicating to respondents that the information they provide will remain confidential when data are shared or made available for secondary analysis?

- Format: Specify the anticipated submission, distribution, and preservation formats for the data and related files (note that these formats may be the same).

- Archiving and Preservation: How will you ensure that data are preserved for the long term?

- Storage and Backup: How and where will you store copies of your research files to ensure their safety? How many copies will you maintain and how will you keep them synchronized?

- Security: How will you ensure that the data are secure?

- Responsibility: Who will act as the responsible steward for the data throughout the data life cycle?

- Existing Data: Are there existing data with a focus similar to the data that will be produced? If so, list what they are and explain why it is important to collect new data.

- Selection and Retention Periods: Indicate how data will be selected for archiving, how long the data will be held, and what your plans are for eventual transition or termination of the data collection in the future.

- Access and Sharing: Indicate how you intend to archive and share your data and why you have chosen that particular option. (e.g., Institutional Repository like CURVE, self-archiving with deposit after a time period, dedicated website, domain repository)

- Audience: Describe the audience for the data you will produce.

- Data Organization: Indicate how the data will be managed during the project, with information about version control, naming conventions, etc.

Reference: https://library.carleton.ca/services/research-data-management
Reference: https://library.carleton.ca/services/research-data-management
Case study 1 - Carleton U

● Remember
  ○ This is what I do
  ○ You are the one walking in your shoes!
  ○ Don’t reinvent the wheel
  ○ Call me!
Case study 2 - Queen’s University Library (QUL)

Team-based approach to RDM—integrated within library support for research

- Data Services (Data Librarian, Data Services Coordinator)
- Head, Open Scholarship Services
- Research Data Management Systems Librarian
- Open Scholarship Services Librarian
- Other Open Scholarship Services librarians
- Liaison librarians
Case study 2 - QUL - RDM Resources & Services

- Resources on the library website
  - RDM LibGuide
  - RDM Workflow
  - RDM Collection Development Policy
  - Data Deposit Form
  - Links to external resources (e.g., Portage)
- Researcher and research team consultations
- Outreach presentations and workshops

Research Data Management

Queen’s University Library provides Research Data Management (RDM) services in order to support researchers in meeting grant requirements, produce a more competitive grant application, increase the impact and visibility of their research, encourage the discovery and use of existing data to explore new research questions, better guarantee the data are accurate, complete, authentic, and reliable, ensure long-term preservation of data for future researchers, and ensure compliance with ethics and privacy policies. Information about RDM services can be found on the RDM LibGuide.

RDM Resources
- Data Deposit Form
- RDM Collection Development Policy
- RDM Workflow

Related Links
- Researcher Training Program
- Scholarly Publishing
- Portage Data Management Planning Assistant

https://library.queensu.ca/help-services/research-data-management
Case study 2 - QUL - Consultations

- **Plan/Create/Process**
  - DMP Assistant
  - RDM best practices
  - Find research data

- **Share/Preserve**
  - Data cleanup
  - Data documentation
  - Data deposit

- **Reuse**
  - Link DOIs of research outputs
  - Promotion

Consultations throughout research lifecycle
Case study 2 - QUL - Outreach
Case study 2 - QUL - New RDM initiatives

- Researcher Training Program (RTP)
- “Train the trainer” sessions for librarians
- Resources for Researchers at Queen’s (R4R@Q)

Researcher Training Program

Welcome to the Queen’s University Library researcher training program.

Queen's researchers and scholars generate globally impactful research and scholarship.

The researcher training program gives VOICE to research results according to the following principles: Value, Openness, Inclusivity, Collaborative platforms, and Engaged researchers (VOICE).

The program consists of an expanding set of self-serve training modules that will help you to successfully manage your digital research and scholarship effectively throughout the research lifecycle and at your point of need:

- Getting Published
- Open Publishing Support
- ORCID and your Research Profile
- Manage your Research Data

https://library.queensu.ca/help-services/researcher-training-program
In Sum ...

We hope you have learned:

● What RDM is
● Where to find helpful resources
● Information about the RDM Needs Assessment study
● How RDM is conducted at Carleton and Queen’s (two examples)
Thank you!

Questions????

Comments????

Anything else????
Contact Information

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